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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

DIXON, THOMAS A

ART UNIT	PAPER NUMBER
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3629

DATE MAILED: 12/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/904,707

Applicant(s)

MAGGIONCALDA ET AL.

Examiner

Thomas A. Dixon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09/22/03.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 and 18-78 is/are pending in the application.
- 4a) Of the above claim(s) 14-17 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-13, 18-60, 70-78 is/are allowed.
- 6) ☒ Claim(s) 61 and 63-69 is/are rejected.
- 7) ☒ Claim(s) 62 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendments / Arguments

1. The terminal disclaimer submitted 09/22/03 is acceptable..
2. The rejections of the previous office action are withdrawn.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 61, 63-69 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claimed invention is not within the technological arts.
4. As an initial matter, the United States Constitution under Art. I, §8, cl. 8 gave Congress the power to "[p]romote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries". In carrying out this power, Congress authorized under 35 U.S.C. §101 a grant of a patent to "[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition or matter, or any new and useful improvement thereof." Therefore, a fundamental premise is that a patent is a statutorily created vehicle for Congress to confer an exclusive right to the inventors for "inventions" that promote the progress of "science and the useful arts". The phrase "technological arts" has been created and used by the courts to offer another view of the term "useful arts". See *In re Musgrave*, 167 USPQ (BNA) 280 (CCPA 1970). Hence, the first test of whether an invention is eligible for a patent is to determine if the invention is within the "technological arts".
5. Further, despite the express language of §101, several judicially created exceptions have been established to exclude certain subject matter as being patentable subject matter covered by §101. These exceptions include "laws of nature", "natural phenomena", and "abstract ideas". See *Diamond v. Diehr*, 450, U.S. 175, 185, 209 USPQ (BNA) 1, 7 (1981). However, courts have found that even if an invention incorporates abstract ideas, such as

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mathematical algorithms, the invention may nevertheless be statutory subject matter if the invention as a whole produces a "useful, concrete and tangible result." See *State Street Bank & Trust Co. v. Signature Financial Group, Inc.* 149 F.3d 1368, 1973, 47 USPQ2d (BNA) 1596 (Fed. Cir. 1998).

6. This "two prong" test was evident when the Court of Customs and Patent Appeals (CCPA) decided an appeal from the Board of Patent Appeals and Interferences (BPAI). See *In re Toma*, 197 USPQ (BNA) 852 (CCPA 1978). In *Toma*, the court held that the recited mathematical algorithm did not render the claim as a whole non-statutory using the Freeman-Walter-Abele test as applied to *Gottschalk v. Benson*, 409 U.S. 63, 175 USPQ (BNA) 673 (1972). Additionally, the court decided separately on the issue of the "technological arts". The court developed a "technological arts" analysis:

The "technological" or "useful" arts inquiry must focus on whether the claimed subject matter...is statutory, not on whether the product of the claimed subject matter...is statutory, not on whether the prior art which the claimed subject matter purports to replace...is statutory, and not on whether the claimed subject matter is presently perceived to be an improvement over the prior art, e.g., whether it "enhances" the operation of a machine. *In re Toma* at 857.

In *Toma*, the claimed invention was a computer program for translating a source human language (e.g., Russian) into a target human language (e.g., English). The court found that the claimed computer implemented process was within the "technological art" because the claimed invention was an operation being performed by a computer within a computer.

7. The decision in *State Street Bank & Trust Co. v. Signature Financial Group, Inc.* never addressed this prong of the test. In *State Street Bank & Trust Co.*, the court found that the "mathematical exception" using the Freeman-Walter-Abele test has little, if any, application to determining the presence of statutory subject matter but rather, statutory subject matter should be based on whether the operation produces a "useful, concrete and tangible result". See *State Street Bank & Trust Co.* at 1374. Furthermore, the court found that there was no "business method exception" since the court decisions that purported to create such exceptions were based on novelty or lack of enablement issues and not on statutory grounds. Therefore, the court held that "[w]hether the patent's claims are too broad to be patentable is not to be judged under §101, but rather under §§102, 103 and 112." See *State Street Bank & Trust Co.* at 1377.

Both of these analysis goes towards whether the claimed invention is non-statutory because of the presence of an abstract idea. Indeed, *State Street* abolished the Freeman-Walter-Abele test used in *Toma*. However, *State Street* never addressed the second part of the analysis, i.e., the "technological arts" test established in *Toma* because the invention in *State Street* (i.e., a computerized system for determining the year-end income, expense, and capital gain or loss for the portfolio) was already determined to be within the technological arts under the *Toma* test. This dichotomy has been recently acknowledged by the Board of Patent Appeals and Interferences (BPAI) in affirming a §101 rejection finding the claimed invention to be non-statutory. See *Ex parte Bowman*, 61 USPQ2d (BNA) 1669 (BdPatApp&Int 2001).

8. In the present application, Claim 61 does not disclose any technological manipulation, such as a display or processor manipulating the data or producing the output of the invention and though it is useful, tangible and concrete it is not within the technological arts and is therefore nonstatutory.

Allowable Subject Matter

9. Claim 62 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. Claims 1-13, 18-60 are allowable.

11. The following is an examiner's statement of reasons for allowance:

As per Claim 1, 20, 23, 34.
Edesess (5,884,287) in view of Baird (5,220,500) does not disclose or fairly teach:

displaying a set of one or more input objects, the input objects to receive one or more input decisions including an indication of a target retirement age, an indication of a target level of investment risk that is constrained to be within a feasible set of risk that is attainable by a particular investor via a set of financial products that are available to the particular investor for investment; and

displaying a set of one or more output values, the set of output values including an indication of the most likely retirement income in current dollars based upon a recommended set of financial products selected from the set of financial products that are available to the particular investor for investment as claimed.

As per Claim 7, 26, 28, 30, 43.

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Edesess (5,884,287) in view of Baird (5,220,500) does not disclose or fairly teach:

- receiving a retirement income goal from the user;
- receiving one or more input decisions from the user, including an indication of a target retirement age and an indication of a target level of investment risk, upon which a probability distribution is dependent, the probability distribution representing a set of possible future portfolio values based upon the one or more input decisions, the target level of investment risk being constrained to be within a feasible set of risk that is attainable by a particular investor via a set of financial products that are available to the particular investor for investment as claimed.

As per Claim 11, 32.

Edesess (5,884,287) in view of Baird (5,220,500) does not disclose or fairly teach:

- concurrently displaying input objects in a first portion of a screen, the input objects configured to receive one or more input decisions including level of risk, and a set of one or more output values in a second portion of the screen, the set of output value including the short-term risk associated with reach a financial goal.

As per Claim 18

Edesess (5,884,287) in view of Baird (5,220,500) does not disclose or fairly teach:

- a recommendation is determined, the recommendation including a recommended allocation of wealth among a set of financial products that are available to a particular investor for investment; and
- displaying a set of output values in a second portion of the first screen, the set of output values including a probability of achieving the financial goal based upon the recommendation as claimed.

As per Claim 52

Edesess (5,884,287) in view of Baird (5,220,500) does not disclose or fairly teach:

- allowing an end user to interactively explore tradeoffs among time, saving and risk and their impact on a probability of the particular investor achieving the financial goal by

- displaying one or more input objects in a first portion of a user interface screen, the one or more input objects being constrained to receive feasible input decisions relating to variable involved in pursuing the financial goal, the input decisions comprising an indication of a time horizon that is acceptable to the individual investor, an indication of a level of investment risk that is acceptable to the particular investor and an indication of a level of savings that is acceptable to the particular investor;

- determining and displaying in a second portion of the screen, a recommended portfolio based on the input decisions, the output comprising an indication of the

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probability of the particular investor achieving the financial goal based upon the recommended portfolio and the time horizon as claimed.

As per Claim 70, 78.

Edesess (5,884,287) in view of Baird (5,220,500) does not disclose or fairly teach:

identifying a relationship between future returns for each financial product if a set of financial products and future returns of combinations of one or more factor asset classes of a set of factor asset classes by determining each financial product's effective asset mix with respect to the set of asset classes;

receiving an indication of financial goal of a particular investor and an indication of time horizon, a level of risk and an indication of a level of savings that is acceptable to the particular investor;

determining expected returns and volatility of returns for each of a plurality of efficient portfolios based on the relationship and the input decisions.

The claims that depend from the above allowed claims are also allowable.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas A. Dixon whose telephone number is (703) 305-4645. The examiner can normally be reached on Monday - Thursday 6:30 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Weiss can be reached on (703) 308-2702. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

A handwritten signature in black ink, appearing to read "Thomas A. Dixon", with a stylized flourish at the end.

Thomas A. Dixon
Examiner
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December 5, 2003